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10/505,327	08/31/2005	Simon Betson	M0025.0312/P312	3768

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EXAMINER	
ALTUN, NURI B	
ART UNIT	PAPER NUMBER
4165	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/505,327	BETSON, SIMON	
	Examiner	Art Unit	
	Nuri Boran ALTUN	4165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 August 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 August 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *23 August 2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This communication is a first Office Action Non-Final rejection on the merits. Claims 1-9 as originally filed, are currently pending and have been considered below.

Specification

1. The disclosure is objected to because of the following informalities:

Character 20 is used to describe "rectangular steel blocks" on page 3, line 23; and "intermediate blocks" on page 3, line 29 in the specification.

Character 418 is used to describe "parallel axes" on page 6, line 23; and "pivots" on page 7, line 25 in the specification.

Page 7, lines 28-29 of the specification recites "which comprises two rollers 434 (Fig. 3)" which should have been Fig. 5 because rollers 434 are shown in Figure 5 instead.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims **1-3 and 9** are rejected under 35 U.S.C. 102(**b**) as being anticipated by **Schulze-Beckinghausen (6,322,472)**.

As per claim 1, Schulze-Beckinghausen teaches an actuator comprising a series of elements (2, 3, 7) each rotatable relative to the next (see Fig. 2), a housing (13) accommodating at least part of the series of elements with one end of the series projecting freely beyond an exit of the housing (col.2, lines 43-44),

the elements being guided to follow a non-linear path to the exit (see Fig. 2),

means (14) for driving the series of elements relative to the housing to vary the total length of elements projecting beyond the exit (col.2, lines 48-50, also see Fig. 2),

and means (5,6,8,9,33) for maintaining the projecting elements in linear alignment in a substantially rigid, column (col.2, lines 29-31, also see Fig. 3 and 4).

As per claim 2, Schulze-Beckinghausen teaches the maintaining means comprising a flexible, substantially inelastic toothed belt (105; since the chain comprises plurality of links with similar features to a belt, chain is construed to be a belt) which is brought progressively into positive engagement with the elements as they rotate into alignment with the column (col.3, lines 42-43, see Fig. 10; since the element comprises the maintaining means it is construed that the belt is brought into positive engagement during rotation).

As per claim 3, Schulze-Beckinghausen teaches the elements being pivotally coupled each to the next along one edge of the series of elements (col.3, lines 46-49; since the plates, which are a part of the elements, are pinned to the links, the elements are construed to be coupled to each other along the edges)

As per claim 9, Schulze-Beckinghausen teaches a device (see title) for moving a load comprising a base portion (8) and a load bearing portion (7) and means (7) for moving the load.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims **4-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Schulze-Beckinghausen (6,322,472),** in view of **Wiegand (3,766,801)**.

As per claim 4, Schulze-Beckinghausen teaches all structural elements of the claimed invention as mentioned in claim 1, but fails to teach the elements being hollow and the drive means including at least one gear located inside the elements as they pass through the housing and which drivingly engages an inside surface of the elements, the elements having an opening on one side which allows passage of a support means for the gear wheel.

Wiegand teaches an actuator assembly having the concept of the elements being hollow (col.3, lines 8-10) and the drive means including at least one gear (48) located inside the elements as they pass through the housing and which drivingly engages an inside surface of the elements (col.3, lines 10-13; since the gear is internal, it is construed that gear drivingly engages inside surface of elements),

the elements having an opening (54) on one side which allows passage of a support means for the gear wheel (col.3, lines 19-22; since the opening is extending through the bottom, it is construed that it is located on one side allowing passage of support for gear wheel).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Schulze-Beckinghausen to include the actuator assembly having the hollow elements taught by Wiegand in order to provide better movement of the parts.

As per claim 5, Schulze-Beckinghausen teaches all structural elements of the claimed invention as mentioned in claim 4, but fails to teach each element having a helically-threaded bore whose axis, when the element is in the linearly aligned column, is coaxial with other such bores in the column to form a continuous helical thread along the column, and wherein the gear wheel comprises a worm gear disposed at the free end of a drive shaft whose rotational axis is coaxial with that of the bores in the column, the worm gear meshing with at least one element in the column at any one time such that rotation of the worm gear increases or decreases the length of the column according to the direction of rotation of the worm gear, each element having a side opening for passage of the drive shaft to allow each element to join or leave the column by rotation relative to the next element.

Wiegand teaches each element having a helically-threaded bore (62) whose axis, when the element is in the linearly aligned column, is coaxial with other such bores in the column to form a continuous helical thread along the column (see Fig. 2),

and wherein the gear wheel comprises a worm gear (56; due to their similar structure pinion gear is construed to be worm gear) disposed at the free end of a drive shaft (52) whose rotational axis is coaxial with that of the bores in the column (col.3, lines 22-25; since the worm gear meshes with the internal gear which is coaxial with the bores, the worm gear is also construed to be coaxial),

the worm gear meshing with at least one element in the column at any one time (col.3, lines 22-25; since internal gear is in engagement with the elements, worm gear is also construed to be engaging) such that rotation of the worm gear increases or decreases the length of the column according to the direction of rotation of the worm gear (col.3, lines 25-27; since gear rotates with the shaft, it is construed that gear also rotates and increases or decreases the length of the column),

each element having a side opening for passage of the drive shaft to allow each element to join or leave the column by rotation relative to the next element(col.3, lines 19-22; since the opening is extending through the bottom, it is construed that it is located on one side allowing passage of drive shaft to allow element movement).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Schulze-Beckinghausen to include the element with helically-threaded bore taught by Wiegand in order to provide better movement of the parts.

As per claim 6, Schulze-Beckinghausen teaches all structural elements of the claimed invention as mentioned in claim 2, but fails to teach the series of elements

entering the housing through an input guide which is rotatable relative to the housing over a range of angles relative to the linearly aligned column.

Wiegand teaches the series of elements entering the housing through an input guide (col.2, lines 31-33) which is rotatable relative to the housing over a range of angles relative to the linearly aligned column (col.3, lines 32-35; since a part of the housing has an arcuate flange, it is construed that guide is also rotatable).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Schulze-Beckinghausen to include the elements configuration taught by Wiegand in order to provide better alignment of the elements.

As per claim 7, Schulze-Beckinghausen teaches the elements (107) being engaged by the belt (106; since the chain comprises plurality of links with similar features to a belt, chain is construed to be a belt) in the input guide (see Fig. 9) whereby the elements are maintained in linear alignment prior to entering the guide (col.3, lines 55-58).

6. Claim **8** is rejected under 35 U.S.C. 103(a) as being unpatentable over **Schulze-Beckinghausen (6,322,472),** in view of **Grasl (6,419,603).**

Schulze-Beckinghausen teaches all structural elements of the claimed invention as mentioned in claim 1, but fails to teach the actuator comprising a sprocket wheel which engages with and guides the elements.

Grasl teaches a device for transmitting a force, in particular a compression force, along a substantially straight path having the concept of the actuator (see title)

comprising a sprocket wheel (17) which engages with and guides the elements (col.6, lines 2-6, see Fig. 2; since the sprocket wheel engages with the belt guiding the elements, it is construed that sprocket also engages and guides the elements).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Schulze-Beckinghausen to include the sprocket wheel taught by Grasl in order to provide better configuration of elements.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nuri Boran ALTUN whose telephone number is (571) 270-5807. The examiner can normally be reached on Mon-Fri 7:30 - 5:00 with first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynda Jasmin can be reached on 571 272 6782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NBA

/Lynda Jasmin/
Supervisory Patent Examiner, Art Unit 4165